



**UNITED STATES DEPARTMENT OF COMMERCE**  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/156,367 09/17/98 LIU

Y YFL98-01PA

PATENT GROUP  
ROPES & GRAY  
ONE INTERNATIONAL PLACE  
BOSTON MA 02110-2624

HM22/1001

EXAMINER
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ALLEN, M

ART UNIT	PAPER NUMBER
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1631

DATE MAILED:

10/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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**Office Action Summary**

Application No.

09/156,367

Applicant(s)

LIU, YA FANG

Examiner

Marianne Allen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-10,12-19 and 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10,12-19,45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 4, 11, 21-24, 27-31, and 44 have been cancelled. Claims 1-3, 5-10, 12-19, and 45 are under consideration by the examiner.

Applicant's arguments filed 7/2/01 have been fully considered but they are not persuasive.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Priority***

Applicant is being given benefit to the instant filing date (9/17/98) and being denied benefit to the provisional application filing date (5/14/98). As presently written, the full scope embraced by each claim was not disclosed in the provisional application. The methods as claimed were not disclosed in the provisional application. The provisional application is essentially a research paper and discloses particular experiments performed. There is no generic disclosure of the methods as presently claimed. Applicant's arguments are unpersuasive with respect to support for the claimed invention in the provisional application. None of the claims is limited to the material disclosed in the provisional application. All of the claims embrace broader concepts. See also new matter rejection below.

### ***Claim Rejections - 35 USC § 112***

Claims 1-3, 5-8, and 12-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

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Claims 1, 14, and 19 have been amended to recite "DLK" and "LZK" activity. No basis has been pointed to in the specification and none is apparent for these particular limitations. The specification as originally filed does not appear to disclose nor contemplate these particular kinases.

Should this new matter rejection be overcome, these claims would be subject to the enablement rejection below for claims 9-10.

Claims 9-10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the methods as outlined below, does not reasonably provide enablement for the breadth of the claims as amended. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Applicant has reintroduced the limitation in the preamble "occurring in a mammal susceptible to or having a neurological condition." This limitation was previously cancelled in view of the ground of rejection set forth in Paper No. 11 at pages 3-5. These claims are again rejected for the same reason.

Claim 45 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification states on page 10 that MLK1, MLK2, and MLK3 are the only kinases known to directly activate the SEK1-JNK cascade and that MLK2 is the neuronal form. The

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functional limitation in the claims remain broad (i.e. unspecified “activity” or unspecified “enzymatic activity”). Note that the specification identifies only kinase enzymatic activity associated with MLK's and no others and that the claims are not limited to kinase activity. It is noted that there is no requirement in the claims for direct phosphorylation of SEK1 protein. As the SEK1 protein is part of a large cascade of kinase activated proteins, the proteins embraced by claim 45 remains large.

Claims 2, 7-9, and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 9 should have “and” instead of --or-- for proper Markush language.

Claims 8 and 13 are confusing in reciting “disease comprising.” It appears that applicant may have intended to use Markush language (selected from the consisting of a, b, and c) but it is unclear. Should applicant have intended something else, they are requested to point to basis in the specification by page and line number for this limitation. It is not known how a disease comprises a particularly recited disease.

Claim 12 as amended appears to be identical in scope to claim 7. Claim 13 as amended appears to be identical in scope to claim 8. Clarification is requested.

Claims 7-8 and 12-13 are confusing. These claims don't clearly further limit the method of claim 1 as there is no method step in claim 1 with respect to whether the compound would be useful in neurotoxicity. The claims don't clearly modify the method. They appear to be directed

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to the type of compound tested. Alternatively, they be interpreted to imply that the cells are taken from the patient for use in the method.

***Claim Rejections - 35 USC § 102***

Claims 1, 6, 14, 19, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al. (U.S. Patent No. 6,060,247).

This rejection is maintained for reasons of record. As set forth in the prior Office action, MEKK1 phosphorylates SEK1. As such, it must inherently bind to SEK1 in order to do so. As binding to SEK1 remains within the scope of the claims, the method is still anticipated. As the claims also recite an MLK1 activity, MLK2 activity, or an MLK3 activity without specifying the metes and bounds of what is encompassed, the examiner views each of these activities to include the ability to cause SEK1 phosphorylation which MEKK1 does. That is, the claims do not require for example MLK1 kinase activity.

The fact that Miller et al. identified inhibitors by a method different from that disclosed by applicant is not persuasive as the claims are not so limited.

***Claim Rejections - 35 USC § 103***

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of Tibbles et al., Rana et al. (Ref. AY3), and Hirai et al. (Ref. AS3) each in view of Au-Young et al. (U.S. Patent No. 5,817,479).

This rejection is maintained for reasons of record. As set forth in the prior Office action, the art teaches that MLK1, MLK2, and MLK3 directly phosphorylate SEK1. In order to do so,

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they must each bind SEK1. As such, phosphorylation of SEK1 is a measure of binding of SEK1.

Furthermore, ability to phosphorylate is a measure of kinase activity.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

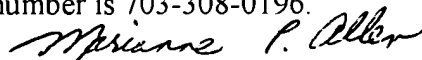
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne P. Allen whose telephone number is 703-308-0666. The examiner can normally be reached on Monday-Friday, 9:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on 703-308-4028. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

  
Marianne P. Allen  
Primary Examiner  
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September 17, 2001